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(54) Standard media suspension body and verification method for an optical particulate measurement instrument

(57) A standard media suspension body (150) for verification and calibration of an optical particulate measurement instrument and configured to be at least partially immersed in a sample fluid is provided according to the invention. The body (150) includes a substantially solid outer surface including a first end (151) and a second end (152) disposed along an axis of illumination A and at least one outer surface (153). The first end (151) is configured to admit impinging light. The suspension body further includes an inner volume. At least a portion of the inner volume includes a substantially suspended light scattering material (155) that is configured to scatter a predetermined quantum of the admitted light. The suspension body (150) further includes an end cap (156) formed on the second end (152) and comprising a light absorbing material. Light exiting the second end (152) is substantially absorbed by the end cap (156).
The first end (151) is polished to form a first optical surface, the second end (152) is polished to form the third optical surface, with the first end (151) and the second end (152) disposed along the axis of illumination A. At least a portion of an outer surface between the first end (151) and the second end (152) is polished to form a second optical surface. The standard media suspension body (150) includes a refractive index that substantially matches the sample fluid refractive index.

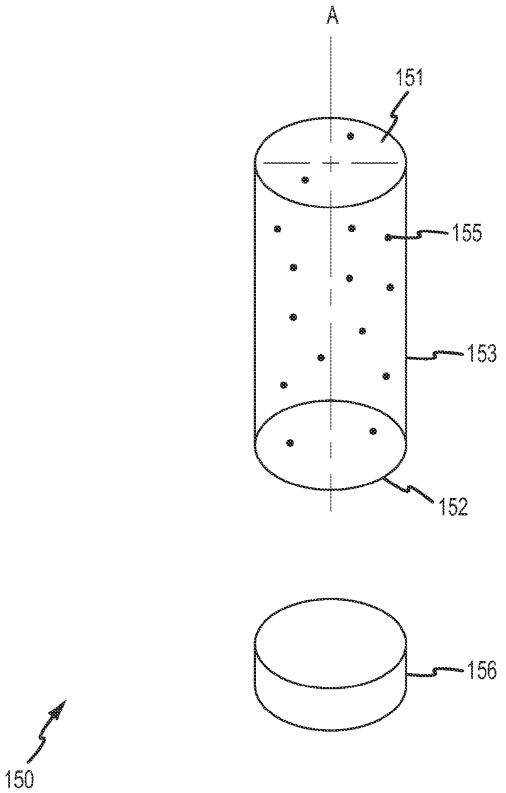

FIG. 3

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EUROPEAN SEARCH REPORT

Application Number
EP 11 17 1411

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 4 291 981 A (OHNISHI MASAAKI ET AL) 29 September 1981 (1981-09-29) * col. 1, lines 8-10; col. 2, lines 3-33; col. 3, line 14 to col. 5, line 62; col. 5, lines 31-62figures 3-5,9 *	1-8	INV. G01N21/47 G01N21/27
X	JP 55 129728 A (NIPPON ELECTRIC CO) 7 October 1980 (1980-10-07) * abstract *	1	
X	US 5 467 187 A (BEERS HOWARD L [US]) 14 November 1995 (1995-11-14) * column 4, line 14 - column 6, line 59; figures 1-3 *	2-8	
A	PAUL C. BEARD: "Photoacoustic imaging of blood vessel equivalent phantoms", PROCEEDINGS OF SPIE, vol. 4618, 1 January 2002 (2002-01-01), pages 54-62, XP55027094, ISSN: 0277-786X, DOI: 10.1117/12.469848 * figures 2,3 *	2	

TECHNICAL FIELDS SEARCHED (IPC)
G01N

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	16 May 2012	Weinberger, Thorsten

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claim: 1

A standard media suspension body having polished optical surfaces and a light absorbing end cap.

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2. claims: 2-8

A verification method for an optical particulate measurement instrument.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 11 17 1411

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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16-05-2012

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82